



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: 40036-0013

Applicant: Charles Bryan BYRD et al.

Confirmation No. 2759

Appl. No.: 10/827,520

Examiner: Unassigned

Filing Date: April 20, 2004

Art Unit: 3737

Title: METHOD AND APPARATUS FOR ULTRASOUND IMAGING WITH
AUTOFREQUENCY SELECTION

**INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.56 and 37 CFR §1.97**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08A is a listing of documents known to applicants in order to comply with applicants' duty of disclosure pursuant to 37 C.F.R. §1.56 and §1.97. A copy of each of the listed documents are being submitted to comply with the provisions of 37 C.F.R. §1.97-1.99.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or is considered to be material to patentability as defined in 37 C.F.R. §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* prior art reference against the claims of the present application.

TIMING/FEE

The instant Information Disclosure Statement is being filed before the mailing of a first Office Action on the merits under 37 CFR §1.97(b)(3), therefore, no fee is required in connection with its filing. However, the Commissioner is hereby authorized to charge any deficiency or to credit any overpayment to Deposit Account No. 08-1641.

Applicants respectfully request that the listed documents be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08A be returned in accordance with M.P.E.P. §609.

Respectfully submitted,

Date: 2/15/05

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Approved for use through 10/31/2002. OMB 0651-0031

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(use as many sheets as necessary)

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Complete if Known

Application Number	10/827,520
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First Named Inventor	Charles Bryan BYRD et al.
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U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	A01	4,161,121	7/17/1979	Zitelli et al.	
	A02	4,241,610	12/30/1980	Anderson	
	A03	4,462,408	7/31/1984	Silverstein et al.	
	A04	4,519,260	5/28/1985	Fu et al.	
	A05	4,576,177	3/18/1986	Webster, Jr.	
	A06	4,605,009	8/12/1986	Pourcelot et al.	
	A07	4,841,977	6/27/1989	Griffith et al.	
	A08	4,890,268	12/26/1989	Smith et al.	
	A09	4,917,097	4/17/1990	Proudian, deceased et al.	
	A10	4,951,677	8/28/1990	Crowley et al.	
	A11	5,002,059	3/26/1991	Crowley et al.	
	A12	5,090,956	2/25/1992	McCoy	
	A13	5,152,294	10/6/1992	Mochizuki et al.	
	A14	5,170,793	12/15/1992	Takano et al.	
	A15	5,195,968	3/23/1993	Lundquist et al.	
	A16	5,254,088	10/19/1993	Lundquist et al.	
	A17	5,279,559	1/18/1994	Barr	

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**Examiner
Signature**

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***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

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		Number - Kind Code ² (if known)			
	A18	5,307,816	5/3/1994	Hashimoto et al.	
	A19	5,309,914	5/10/1994	Iinuma	
	A20	5,325,860	7/5/1994	Seward et al.	
	A21	5,336,182	8/9/1994	Lundquist et al.	
	A22	5,345,938	9/13/1994	Nishiki et al.	
	A23	5,345,940	9/13/1994	Seward et al.	
	A24	5,357,550	10/18/1994	Asahina et al.	
	A25	5,358,478	10/25/1994	Thompson et al.	
	A26	5,364,351	11/15/1994	Heinzelman et al.	
	A27	5,395,327	3/7/1995	Lundquist et al.	
	A28	5,456,664	10/10/1995	Heinzelman et al.	
	A29	5,456,258	10/10/1995	Kondo et al.	
	A30	5,499,630	3/19/1996	Hiki et al.	
	A31	5,531,686	7/2/1996	Lundquist et al.	
	A32	5,560,362	10/1/1996	Sliwa, Jr. et al.	
	A33	5,662,116	9/2/1997	Kondo et al.	
	A34	5,697,965	12/16/1997	Griffin, III	

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<div>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</div> <div>(use as many sheets as necessary)</div>					
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		Number - Kind Code ² (if known)			
	A35	5,699,805	12/23/1997	Seward et al.	
	A36	5,715,817	2/10/1998	Stevens-Wright et al.	
	A37	5,704,361	1/6/1998	Seward et al.	
	A38	5,713,363	2/3/1998	Seward et al.	
	A39	5,749,364	5/12/1998	Sliwa, Jr. et al.	
	A40	5,788,636	8/4/1998	Curley	
	A41	5,795,299	8/18/1998	Eaton et al.	
	A42	5,797,848	8/25/1998	Marian et al.	
	A43	5,807,324	9/15/1998	Griffin, III	
	A44	5,846,205	12/8/1998	Curley et al.	
	A45	5,888,577	3/30/1999	Griffin, III et al.	
	A46	5,891,088	4/6/1999	Thompson et al.	
	A47	5,906,579	5/25/1999	Vander Salm et al.	
	A48	5,921,978	7/13/1999	Thompson et al.	
	A49	5,928,276	7/27/1999	Griffin, III et al.	
	A50	5,931,863	8/3/1999	Griffin, III et al.	
	A51	5,935,102	8/10/1999	Bowden et al.	

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Examiner Signature		Date Considered	
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**INFORMATION DISCLOSURE
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		Number - Kind Code ² (if known)			
	A52	5,938,616	8/17/1999	Eaton et al.	
	A53	5,954,654	9/21/1999	Eaton et al.	
	A54	6,013,072	1/11/2000	Winston et al.	
	A55	6,033,378	3/7/2000	Lundquist et al.	
	A56	6,039,693	3/21/2000	Seward et al.	
	A57	6,085,117	7/4/2000	Griffin, III et al.	
	A58	6,144,870	11/7/2000	Griffin, III	
	A59	6,171,248 B1	1/9/2001	Hossack et al.	
	A60	6,173,205 B1	1/9/2001	Griffin, III et al.	
	A61	6,224,556 B1	5/1/2001	Schwartz et al.	
	A62	6,228,028 B1	5/8/2001	Klein et al.	
	A63	6,228,032 B1	5/8/2001	Eaton et al.	
	A64	6,306,096 B1	10/23/2001	Seward et al.	
	A65	6,306,097 B1	10/23/2001	Park et al.	
	A66	6,310,828 B1	10/30/2001	Mumm et al.	
	A67	6,360,027 B1	3/19/2002	Hossack et al.	
	A68	6,368,275 B1	4/9/2002	Sliwa et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No.	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
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		Number - Kind Code ² (if known)				
	A69	6,385,489	B1	5/7/2002	Griffin, III et al.	
	A70	6,398,731	B1	6/4/2002	Mumm et al.	
	A71	6,423,002	B1	7/23/2002	Hossack	
	A72	6,440,488	B2	8/27/2002	Griffin, III et al.	
	A73	6,443,894	B1	9/3/2002	Sumanaweera et al.	
	A74	6,475,149	B1	11/5/2002	Sumanaweera	
	A75	6,475,148	B1	11/5/2002	Jackson et al.	
	A76	6,482,161	B1	11/19/2002	Sumanaweera et al.	
	A77	6,485,455	B1	11/26/2002	Thompson et al.	
	A78	6,491,633	B1	12/10/2002	Krishnan et al.	
	A79	6,503,202	B1	1/7/2003	Hossack et al.	
	A80	6,517,488	B1	2/11/2003	Hossack	
	A81	6,527,717	B1	3/4/2003	Jackson et al.	
	A82	US 2003/0045796	A1	3/6/2003	Friedman	
	A83	6,532,378	B2	3/11/2003	Saksena et al.	
	A84	6,554,770	B1	4/29/2003	Sumanaweera et al.	
	A85	6,589,182	B1	7/8/2003	Loftman et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/827,520
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		Group Art Unit	3737
		Examiner Name	Unassigned
Sheet 7 of 7	Attorney Docket Number	40036-0013	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	A93	KEITH S. DICKERSON et al., "Comparison of Conventional and Transverse Doppler Sonograms", J. Ultrasound Med., 1993, pp. 497-506, Vol. 12	
	A94	DAVID J. SAHN, "Phased Arrays for Multiplane Esophageal Echos in Infants", Summary Statement, Diagnostic Radiology Study Section, June 1990.	
	A95	DAVID J. SAHN, "Instrumentation and Physical Factors Related to Visualization of Stenotic and Regurgitant Jets by Doppler Color Flow Mapping", JACC, November 1988, pp. 1354-65, Vol. 12, No. 5	
	A96	DAVID J. SAHN, "Advances in Ultrasound Imaging for Congenital Heart Disease Diagnosis and Management", Pediatric Cardiology, November 26-1 December 1989, Proceedings of the III World Congress of Pediatric Cardiology, Bangkok	
	A97	DAVID J. SAHN et al., "Important Roles of Transeophageal Color Doppler Flow Mapping Studies (TEE) in Infants with Congenital Heart Disease", Supplement to Journal of the American College of Cardiology, February 1990, Vol. 15, No. 2 (Supplement A)	
	A98	DAVID J. SAHN, "Applications of Color Flow Mapping in Pediatric Cardiology", Cardiology Clinics", May 1989, pp. 255-264, Vol. 7, No. 2	
	A99	DAVID J. SAHN et al., "Miniaturized High Frequency Phased Array Devices for High Resolution Neonatal and Intraoperative Imaging", Supplement to Journal of the American College of Cardiology, February 1990, Vol. 15, No. 2 (Supplement A)	
	A100	PIERO TORTOLI et al., "Velocity Magnitude Estimation with Linear Arrays Using Doppler Bandwidth", Ultrasonics, 2001, pp. 157-161, Vol. 39	
	A101	LILLIAM M. VALDES-CRUZ et al., "Transvascular Intracardiac Applications of a Miniaturized Phase-Array Ultrasonic Endoscope", Brief Rapid Communication, March 1991, pp. 1023-1027, Vol. 83, No. 3	
	A102	LILLIAM M. VALDES-CRUZ et al., "Experimental Animal Investigations of the Potential for New Approaches to Diagnostic Cardiac Imaging in Infants and Small Premature Infants from Intracardiac and Trasesophageal Approaches Using a 20MHz Real Time Ultrasound Imaging Catheter", Supplement to Journal of the American College of Cardiology, February 1989, Vol. 13, No. 2 (Supplement A)	
	A103	P.N.T. WELLS, "Velocity, Absorption and Attenuation in Biological Materials", Biomedical Ultrasonics, 1977, pp. 110-144	

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